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DEC 11 2002

## SEQUENCE LISTING

TECH CENTER 1600/2900

<110> Rouleau, Guy A.  
Lafreniere, Ronald G.  
Rocheffort, Daniel

<120> LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS  
THEREOF AND METHOD USING SAME TO ASSESS, DIAGNOSE,  
PROGNOSE OR TREAT EPILEPSY

<130> GOUD:023US

<140> 09/718,355

<141> 2000-11-24

<150> PCT/CA00/01404

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<150> 60/167,623

<151> 1999-11-26

<160> 408

<170> PatentIn Ver. 2.1

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Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile  
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Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala  
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Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser  
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Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu  
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Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly  
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Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser  
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Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr  
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Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg  
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Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser  
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Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp  
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Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu  
 595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln  
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Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys  
 625 630 635 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly  
 645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile  
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Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu  
 675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu  
 690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu  
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Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro  
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Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro  
 740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro  
 755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe  
770 775 780  
Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu  
785 790 795 800  
Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe  
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Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly  
835 840 845  
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850 855 860  
Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile  
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Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val  
885 890 895  
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915 920 925  
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930 935 940  
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980 985 990  
Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu  
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 Glu Gly Ser Thr Val Asp Ile Gly Ala Pro Val Glu Glu Gln Pro Val  
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 Thr Gly Glu Cys Val Leu Lys Leu Ile Ser Leu Arg His Tyr Tyr Phe  
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 1635 1640 1645  
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 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val  
 1665 1670 1675 1680

Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys  
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Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn  
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Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly  
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Leu Leu Ala Pro Ile Leu Asn Ser Lys Pro Pro Asp Cys Asp Pro Asn  
 1730 1735 1740

Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser  
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Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val  
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Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala  
 1780 1785 1790

Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe  
 1795 1800 1805

Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Met Glu  
 1810 1815 1820

Phe Glu Lys Leu Ser Gln Phe Ala Ala Ala Leu Glu Pro Pro Leu Asn  
 1825 1830 1835 1840

Leu Pro Gln Pro Asn Lys Leu Gln Leu Ile Ala Met Asp Leu Pro Met  
 1845 1850 1855

Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr  
 1860 1865 1870

Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln  
 1875 1880 1885

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln  
 1890 1895 1900

Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val  
 1905 1910 1915 1920

Ile Ile Gln Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys  
 1925 1930 1935

Gln Ala Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn  
 1940 1945 1950

Leu Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser  
 1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro Pro  
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Gly Lys Asp Glu Lys Ala Lys Gly Lys  
 2005

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 gcaaggagaa gcaatactgg gagattacag agaagaaagg aaaaaaggct gagagaaaag 180  
 aggttgagga agaaatcata aatctggatt gtgagaaagt gtttaatat tagccactag 240  
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 cctctctctg tccccctccc cgcgcctccc tctctcaacc ttccatgaac tgaaatcagg 780  
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 caggacctga cagcttcaac ttcttcacca gagaatctct tgcggctatt gaaagacgca 180  
 ttgcagaaga aaaggcaaag aatcccaaac cagacaaaaa aagatgacga cgaaaaatgg 240  
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 cctccagaga tgggtgtcaga gcccctggag gacctggacc cctactatat caataagaaa 360  
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ttcaagtgat taatattaac ttttgtaca tgatctgtaa gcactttata gctaaatata 360
aaattaagtt gggaaatgtc catattatat aggtttcatc actctcattt tgcattctttg 420
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gattytgaaa ctgtgtctta atgtagtctt aaaataaaac tgaagagcat tttattaaag 420
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atcagtgttt atgcttttaa gaataggttt gctttacctg tagaatattt ttgtgtgatt 480
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agctttgaga gctttgaaaa ctatttcggg aattccaggt aagaagtgat tagagtaaag 180
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attccagggtg agagcaaggt tagataatga gacggaccca tcatgtgatt cagcatcctt 240  
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cgactttctt ttttcaaaca ggatatcatt atttcctgga gggtttttta gatgcactac 180  
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 <213> Homo sapiens

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 <211> 645  
 <212> DNA  
 <213> Homo sapiens

<400> 20					
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<210> 21  
 <211> 829  
 <212> DNA  
 <213> Homo sapiens

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<210> 22  
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 <212> DNA  
 <213> Homo sapiens

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<211> 516  
<212> DNA  
<213> Homo sapiens

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gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420  
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<210> 24  
<211> 640  
<212> DNA  
<213> Homo sapiens

<400> 24  
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gacaaggaca ttgctaaagg atattatgga agcagagaca ctttatctac ttttatttca 180  
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<210> 25  
<211> 607  
<212> DNA  
<213> Homo sapiens

<400> 25  
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<210> 26

<211> 336  
<212> DNA  
<213> Homo sapiens

<400> 26  
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<210> 27  
<211> 677  
<212> DNA  
<213> Homo sapiens

<400> 27  
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<210> 28  
<211> 457  
<212> DNA  
<213> Homo sapiens

<400> 28  
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<210> 29  
<211> 379  
<212> DNA  
<213> Homo sapiens

<400> 29  
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<210> 30  
 <211> 393  
 <212> DNA  
 <213> Homo sapiens

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<400> 30
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<210> 31  
 <211> 539  
 <212> DNA  
 <213> Homo sapiens

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<400> 31
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<210> 32  
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 <212> DNA  
 <213> Homo sapiens

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<210> 33

<211> 8349

<212> DNA

<213> Homo sapiens

<400> 33

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Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp  
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Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu  
100 105 110  
Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His  
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Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val  
130 135 140  
Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr  
145 150 155 160  
Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala  
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Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn  
180 185 190  
Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val  
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Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala  
210 215 220  
Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala  
225 230 235 240  
Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val  
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Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly  
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Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe  
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Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly  
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Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile  
 305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu  
 325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile  
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Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp  
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Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp  
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Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr  
 385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu  
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Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn  
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Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln  
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Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala  
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Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile  
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Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys  
 485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu  
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Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser  
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Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser  
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Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu  
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Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser  
 565 570 575



Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp  
 580 585 590

Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg  
 595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn  
 610 615 620

Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met  
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Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu  
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Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu  
 660 665 670

Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr  
 675 680 685

His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala  
 690 695 700

Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu  
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Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys  
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Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val  
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Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys  
 755 760 765

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr  
 770 775 780

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly  
 785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr  
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Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser  
 820 825 830

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val  
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Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp  
 850 855 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala  
 865 870 875 880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala  
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Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys  
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Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe  
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Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile  
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Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
 945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
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Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
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Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
 995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu Phe  
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Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu Ile Lys  
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Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile Ser Asn His  
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Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu Lys Asp Gly Asn  
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Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu Lys Tyr Val Val Asp  
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Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr  
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Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu  
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Glu Phe Ser Ser Glu Ser Asp Met Glu Glu Ser Lys Glu Lys Leu Asn  
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Ala Thr Ser Ser Ser Glu Gly Ser Thr Val Asp Ile Gly Ala Pro Ala  
 1140 1145 1150

Glu Gly Glu Gln Pro Glu Val Glu Pro Glu Glu Ser Leu Glu Pro Glu  
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Ala Cys Phe Thr Glu Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile  
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Ser Ile Glu Glu Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr  
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 Cys Tyr Lys Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe  
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 Met Ile Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile  
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 Glu Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val  
 1235 1240 1245  
 Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr  
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 Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu  
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 Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr  
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 Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg  
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 Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys  
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 Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala  
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 Gly Lys Phe Tyr His Cys Ile Asn Tyr Thr Thr Gly Glu Met Phe Asp  
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 Val Ser Val Val Asn Asn Tyr Ser Glu Cys Lys Ala Leu Ile Glu Ser  
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 Ile Ile Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile  
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 Ile Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile  
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Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu  
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Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe  
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Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe Asp Ile Ser  
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Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr  
1540 1545 1550

Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu Tyr Trp Ile Asn Leu  
1555 1560 1565

Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile Ser  
1570 1575 1580

Leu Arg Tyr Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp Phe Val  
1585 1590 1595 1600

Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu Leu Ile Glu  
1605 1610 1615

Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile Arg Leu Ala Arg  
1620 1625 1630

Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr  
1635 1640 1645

Leu Leu Phe Ala Leu Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly  
1650 1655 1660

Leu Leu Leu Phe Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser  
1665 1670 1675 1680

Asn Phe Ala Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn  
1685 1690 1695

Phe Glu Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr  
1700 1705 1710

Ser Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro  
1715 1720 1725

Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys Gly  
1730 1735 1740

Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile  
1745 1750 1755 1760

Ile Ile Ser Phe Leu Val Val Val Asn Met Tyr Ile Ala Val Ile Leu  
1765 1770 1775

Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu  
1780 1785 1790

Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp  
 1795 1800 1805

Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu Ser Asp Phe Ala Asp Ala  
 1810 1815 1820

Leu Asp Pro Pro Leu Leu Ile Ala Lys Pro Asn Lys Val Gln Leu Ile  
 1825 1830 1835 1840

Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His Cys Leu Asp  
 1845 1850 1855

Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu Ser Gly Glu Met  
 1860 1865 1870

Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe Met Ala Ser Asn Pro  
 1875 1880 1885

Ser Lys Val Ser Tyr Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln  
 1890 1895 1900

Glu Glu Val Ser Ala Ile Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu  
 1905 1910 1915 1920

Leu Lys Gln Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys  
 1925 1930 1935

Gly Lys Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp  
 1940 1945 1950

Lys Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser  
 1955 1960 1965

Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys Glu  
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 1985 1990 1995 2000

Arg Glu Ser Lys Lys  
 2005

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Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu		
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Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His		
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Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val		
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Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn		
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Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val		
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Asn Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala		
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Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val		
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Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly		
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275	280	285
Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly		
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Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile		
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Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu		
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Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile		

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Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp		
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Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp		
370	375	380
Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr		
385	390	395
Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu		
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Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn		
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Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln		
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Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala		
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Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile		
465	470	475
Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys		
485	490	495
Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu		
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Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser		
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Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser		
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Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu		
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Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser		
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Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp		
580	585	590
Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg		
595	600	605
Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn		
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Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met		
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Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu		

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Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu		
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Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr		
675	680	685
His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala		
690	695	700
Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu		
705	710	715
Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys		
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Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val		
740	745	750
Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys		
755	760	765
Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr		
770	775	780
Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly		
785	790	795
Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr		
805	810	815
Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser		
820	825	830
Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val		
835	840	845
Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp		
850	855	860
Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala		
865	870	875
Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala		
885	890	895
Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys		
900	905	910
Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe		
915	920	925
Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile		
930	935	940
Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu		



945	950	955	960
Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn			
	965	970	975
Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala			
	980	985	990
Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly			
	995	1000	1005
Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu Phe			
	1010	1015	1020
Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu Ile Lys			
	1025	1030	1035
Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile Ser Asn His			
	1045	1050	1055
Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu Lys Asp Gly Asn			
	1060	1065	1070
Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu Lys Tyr Val Val Asp			
	1075	1080	1085
Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr			
	1090	1095	1100
Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu			
	1105	1110	1115
Glu Phe Ser Ser Glu Ser Asp Met Glu Glu Ser Lys Glu Lys Leu Asn			
	1125	1130	1135
Ala Thr Ser Ser Ser Glu Gly Ser Thr Val Asp Ile Gly Ala Pro Ala			
	1140	1145	1150
Glu Gly Glu Gln Pro Glu Val Glu Pro Glu Glu Ser Leu Glu Pro Glu			
	1155	1160	1165
Ala Cys Phe Thr Glu Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile			
	1170	1175	1180
Ser Ile Glu Glu Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr			
	1185	1190	1195
Cys Tyr Lys Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe			
	1205	1210	1215
Met Ile Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile			
	1220	1225	1230
Glu Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val			
	1235	1240	1245
Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr			

1250	1255	1260
Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu		
1265	1270	1275 1280
Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr		
	1285	1290 1295
Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg		
	1300	1305 1310
Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Ala Val Val Asn		
	1315	1320 1325
Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys		
	1330	1335 1340
Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala		
	1345	1350 1355 1360
Gly Lys Phe Tyr His Cys Ile Asn Tyr Thr Thr Gly Glu Met Phe Asp		
	1365	1370 1375
Val Ser Val Val Asn Asn Tyr Ser Glu Cys Lys Ala Leu Ile Glu Ser		
	1380	1385 1390
Asn Gln Thr Ala Arg Trp Lys Asn Val Lys Val Asn Phe Asp Asn Val		
	1395	1400 1405
Gly Leu Gly Tyr Leu Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp		
	1410	1415 1420
Met Asp Ile Met Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln		
	1425	1430 1435 1440
Pro Lys Tyr Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe		
	1445	1450 1455
Ile Ile Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile		
	1460	1465 1470
Ile Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile		
	1475	1480 1485
Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu		
	1490	1495 1500
Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe		
	1505	1510 1515 1520
Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe Asp Ile Ser		
	1525	1530 1535
Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr		
	1540	1545 1550
Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu Tyr Trp Ile Asn Leu		

1555	1560	1565
Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile Ser		
1570	1575	1580
Leu Arg Tyr Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp Phe Val		
1585	1590	1595 1600
Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu Leu Ile Glu		
	1605	1610 1615
Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile Arg Leu Ala Arg		
	1620	1625 1630
Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr		
	1635	1640 1645
Leu Leu Phe Ala Leu Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly		
	1650	1655 1660
Leu Leu Leu Phe Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser		
1665	1670	1675 1680
Asn Phe Ala Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn		
	1685	1690 1695
Phe Glu Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr		
	1700	1705 1710
Ser Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro		
	1715	1720 1725
Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys Gly		
	1730	1735 1740
Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile		
1745	1750	1755 1760
Ile Ile Ser Phe Leu Val Val Val Asn Met Tyr Ile Ala Val Ile Leu		
	1765	1770 1775
Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu		
	1780	1785 1790
Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp		
	1795	1800 1805
Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu Ser Asp Phe Ala Asp Ala		
	1810	1815 1820
Leu Asp Pro Pro Leu Leu Ile Ala Lys Pro Asn Lys Val Gln Leu Ile		
1825	1830	1835 1840
Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His Cys Leu Asp		
	1845	1850 1855
Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu Ser Gly Glu Met		

1860	1865	1870
Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe Met Ala Ser Asn Pro		
1875	1880	1885
Ser Lys Val Ser Tyr Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln		
1890	1895	1900
Glu Glu Val Ser Ala Ile Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu		
1905	1910	1915
Leu Lys Gln Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys		
1925	1930	1935
Gly Lys Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp		
1940	1945	1950
Lys Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser		
1955	1960	1965
Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys Glu		
1970	1975	1980
Lys Phe Glu Lys Asp Lys Ser Glu Lys Glu Asp Lys Gly Lys Asp Ile		
1985	1990	1995
2000		
Arg Glu Ser Lys Lys		
2005		

<210> 37  
 <211> 912  
 <212> DNA  
 <213> Homo sapiens

<400> 37  
 gaattcttta tatgggttga atgactttct gacatagcaa ataaaaagca tgaggagaag 60  
 cattatctgt taacaaaatt aacacttaaa atcaacaaag ttttaatggt tcgttccaag 120  
 aaaagcctgt ggaagatcag ttccacaact gagagctttg ggctgcttca gacatatgtc 180  
 tgtgtgtacg ctgtgaagggt gtttctcttc acagttcccc gccctctagt ggtagttaca 240  
 ataatgccat tttgtagtcc ctgtacagga aatgcctctt cttacttcag ttaccagaat 300  
 ccttttacag gaagttagggt gtggtccttg aaggagaatt aaaaaaaaaa aaaaaaaaaa 360  
 aaaaaagatt tttttttttt taaagcatga tggaatttta gctgcagtct tcttggggcc 420  
 agcttatcaa tcccaaactc tgggggtaaa agattctaca ggggtaatgt tttattattc 480  
 ttattatgct tattctctgt gatgcttctc tacctttaca gtagtagaat ccttggggaa 540  
 atctgcagag ggaccacttt cattttgaag ctgctggctg catgttttag catgtctctt 600  
 ctattagaga atccaggcat ggcagtttcc tccccagtg tgcaaggacc atcttcatgc 660  
 ctatgtctgt cgctaggcat gaggtctctt aggaatgggt gaaaaaaatg agggatgttt 720  
 tggaggcact ataatactgg ggagggcagt ctgctagctg gtagctgaaa ggtcctgggt 780  
 tacttcaaca ttttttttaa ataaaactgt gcagtagttt ttgttatatt agggttccct 840  
 ctgttttatc tgggtgatgc tgcagaagtg aactgcataa cacatttcac tcttagaaat 900  
 gcattccata ta 912

<210> 38  
 <211> 722  
 <212> DNA

<213> Homo sapiens

<400> 38

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ctcagtgcac gtaactgaca caatcacctc tatctaattg tcattgcttct tacctcctgt 60
tctgtagcac tttcttatgc aaggagctaa acagtgatta aaggagcagg atgaaaagat 120
ggcacagtca gtgctggtac cgccaggacc tgacagcttc cgcttcttta ccagggaatc 180
ccttgctgct attgaacaac gcattgcaga agagaaagct aagagaccca aacaggaaacg 240
caaggatgag gatgatgaaa atggcccaaa gccaaacagt gacttggaag cagsaaaaatc 300
tcttccattt atttatggag acattcctcc agagatgggt tcagtgcctc tggaggatct 360
ggacccctac tatatcaata agaaagttag ttcttagtca agttgccttc actgcctatt 420
tactaattgg ttctgggcta gtcccaggga tgatgggtgaa gaaggctggc ctccctccct 480
ctgtctaaag tatcactaag atgctggatg ggccctgacc tgtaattggc caatgatcct 540
agaagtcttt tggaagcact catttgaacc tgcatttgtg agacaggcag agaactgggtg 600
aggcatcctc cagcgcgaggg attaaggaag gacaaaagcc tattcacctt cttgaatata 660
aattatatgc ttaaaccagt gtaaattgac cctgattccc taataatgtt gagaagcaaa 720
aa 722
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<210> 39

<211> 561

<212> DNA

<213> Homo sapiens

<400> 39

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cctatggcat tgatcacaaa ttttcttaat aatcctcatg tcatttatca aatttaggaa 60
agtttatagt gctcagaaaa aaaaagcatc tatcttcatg tcatatgatg gtaattatta 120
tggtatacac tattttacag ggcaatatat ataaataatg gttttacttt tctcttaaaa 180
tattcttaat atatatctta agttttgttt tatgtgttgt gttttctttt tcagacgttt 240
atagtattga ataaagggaa agcaatctct cgattcagtg ccacccctgc cctttacatt 300
ttaactccct tcaaccctat tagaaaatta gctattaaga ttttggtaca ttcatatcct 360
ttttcaaacc gtcacttaat atgattttct tctttgacca agttattgag ctacacattt 420
tccaaaatat ctgtggttgg caatgttatg tgttctttct ttttctttcc ttttactcaa 480
tcgttagcat gttgcaaaat gagatcacag gtaagtgaat tactttcccc cgtcttctaa 540
tggtttcttc tctacccaac t 561
```

<210> 40

<211> 510

<212> DNA

<213> Homo sapiens

<400> 40

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acctaaatag cctcaaaaata gttgatggct tggcctgaag acaagatcta aatatgaggt 60
tgctgagtta tagaaatggc aaaaaaaagg gtcaataata gaataataag caacaaaata 120
atagtaagca ctaaaagttt aaacttcatg gtggtgaagg catggtagtg cataaaaagta 180
agatttttcc attgaacttt gtcttccttg acgatattct actttattca atatgctcat 240
tatgtgcacg attcttacca actgtgtatt tatgaccatg agtaaccctc cagactggac 300
aaagaatgtg gagtaagtat aaatatTTTT caatattgac ctccctttat gtttcatatt 360
gtgcttttaa caccctgaga cctcctcaat ttctttaaca aatcatgcta gctactgtta 420
accagaccct gattcaaat catttctgtc actaaatgtc ttctaggaca aagcttgtag 480
tgggctcact tagttgtgta aattactgca 510
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<210> 41

<211> 370

<212> DNA

<213> Homo sapiens

<400> 41  
 taagatatgt acttgtaaat taaccactag atttttaatg tgagcttggc tattgtctct 60  
 caggtatacc tttaacaggaa ttataacttt tgaatcactt attaaaatac ttgcaagggg 120  
 cttttgttta gaagatttca cttttttacg ggatccatgg aattgggttg atttcacagt 180  
 cttacttttt gcgtaagtat ctttaatacat tttctatcct ggaagagtaa atcactgggtg 240  
 ggagcctata ctatatatttc cttgggtggct tgccttgaca gaccaagcat ttntcttagt 300  
 aatcatagtt ttcttccaat caaattatcc agtttggaga aattaggaac tatcatagta 360  
 aattacatgg 370

<210> 42  
 <211> 370  
 <212> DNA  
 <213> Homo sapiens

<400> 42  
 caattagcac tgtaaagtaa taaagtttcc caaataacag agattatgat tgatgacaat 60  
 gccattttcc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggctcttg 120  
 atgaaagacc aangaagacg tagattttccc taaattctga ataactctga tttaattcta 180  
 caggtatgta acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt 240  
 cttgagagct ttgaaaaacta tttctgtaat tccaggttaag aagaaaatgg tataagggtgg 300  
 taggcccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360  
 cctattacag 370

<210> 43  
 <211> 410  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 gtaagaagaa aatgggtataa ggtggtaggc cccttatatc tccaactggt tcttgtgttc 60  
 tgtcattgtg tttgtgtgtg aaccccttat tacagatatg tgacagagtt tgtggacctg 120  
 ggcaatgtct cagcgttgag aacattcaga gttctccgag cattgaaaac aatttcagtc 180  
 attccagggt agagctaggt taaacaccga ggctgacttt agctacagtg gtgctacaat 240  
 cacagctttt gtgcagaagc cttgttgcta gttgcatatt gcaaataaat atgtaaaaaa 300  
 gcaagaattg gtacatcatt ttttggtatg atttgattct ttgcttttta cccgttgctt 360  
 tctttaaaac tattctaaat cagcctttga gtttaacaag tgttgcatga 410

<210> 44  
 <211> 1066  
 <212> DNA  
 <213> Homo sapiens

<400> 44  
 aaagagtgtt tggaaatata catttggttc atttccattc acagttttct aatgaacata 60  
 caagttctgc tttcattcat ttccaccagc tagtaggctt ttcattgaaa tgttattcaa 120  
 tcacaaacat taaactaata ttgttggcat tctgcatgac atttttatct tccaggccaa 180  
 gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240  
 gatcttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300  
 ttctgatgtc atgatcttga ctgtgttctg tctaagcgtg tttgcgctaa taggattgca 360  
 gttgttcatg ggcaacctac gaaataaatg tttgcaatgg cctccagata attcttcctt 420  
 tgaaataaat atcacttcct tctttaacaa ttcattggat gggaatggta ctactttcaa 480  
 taggacagtg agcatattta actgggatga atatatagag gataaaaagta agatatactc 540  
 tataaaccat taagttgttt agttctctaa atattaaata ttatatataa tggaaattat 600

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ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa 660
agagatatca aaggatacct tattctatctg tccattgata tagtaaaagt 720
tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata 780
ttaaaaaagg tttatttggg agacattaat cagggtttttc agtcatttta ataaataagt 840
cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa 900
taatttggcc ctatttgggt gatgcaacat atgtattgag tacatatgct atatctgaaa 960
ctagagaaac catttatcaa gatgaaataa gaatttgtgt gtcctcaga aggttaagta 1020
accctgattt agccattcac ttcattccata ttctaattag tccctt 1066

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<210> 45
<211> 385
<212> DNA
<213> Homo sapiens

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<400> 45
gttcaattat tgtgaaaaat cttcttttagc catatatatt tattagttta tccatctcat 60
tatgattgaa aacatttgtg agctttgcca cctaaacagg gtggtgag tgttttacag 120
gattttaatg attcttttcta ttcctttctc tttaaataagg tcacttttat tttttacagg 180
ggcaaaatga tgctctgctt tgtggcaaca gctcagatgc agggtaagtg tatgcttctc 240
actgagtttc agtccacact gctccatcag tgtcaataac ctgccacctc cactcatcc 300
agtccacca ctctcactc aaaaccctcc ataaattcta cttcacggtg actctcagaa 360
tgaccaggat aagtgtagat tctca 385

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<210> 46
<211> 430
<212> DNA
<213> Homo sapiens

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<400> 46
tataataatg acaattatga atcacagagg aatccacaaa gtagacctta tagattctgt 60
cattatataa atcagtcac ttagtgctga gttaagtact gggtaagggtg agagaaatcg 120
gcttttttct agtgccctgta taaaacagac attggcatat attaaaacag gaaaaccaat 180
tagcagactt gccgttattg actycctctc tttctcttaa cctaattaca gccagtgtcc 240
tgaaggatac atctgtgtga aggttggtag aaaccccaac tatggctaca cgagctttga 300
cacctttagt tgggcctttt tgccttatt tcgtctcatg actcaagact tctgggaaaa 360
cctttatcaa ctggtgagaa cagataaaat catttttctg agaatcataa aacaccgaac 420
tcaagagaat 430

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<210> 47
<211> 646
<212> DNA
<213> Homo sapiens

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<400> 47
tgctgtagaa tattttatta cttagagtgt aagtttgtaa catcctatat aaaatttatt 60
aaaatctctc ttccattttg cagacactac gtgctgctgg gaaaacgtac atgatatttt 120
tttgctggtt cattttcttg ggctcattct atctaataaa tttgatcttg gctgtggtgg 180
ccatggccta tgaggaacag aatcaggcca cattggaaga ggctgaacag aaggaagctg 240
aatctcagca gatgctcgaa cagttgaaaa agcaacaaga agaagctcag gtatagtga 300
caagcatatg gtcctttgtt tttctgtatc taaattcttt aacctaaatg ttgaggtcag 360
tggcaaggta gttgacatta gaaataggct atatgtgttt ggtaagtgtg aggagcctgt 420
ttggttatta agaagttatt actttattgc aatgatctct gtcaatagtg tcaatagtaa 480
tggcatcaaa aaatggataa ttataattgc tttactgaca tttttttctc ccttgtgact 540
ccttgaggaa attaatgatt aacaaaggcc tcatgtactc aaacttgacag agtagataaa 600

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cctacatgtc ctcagttgaa gtattttctt aggggaagag gaattc

646

<210> 48  
<211> 711  
<212> DNA  
<213> Homo sapiens

<400> 48  
tatgtatcat cttccatatt aatgcgcatt ttactctttg attggtctaa taacagtgtg 60  
ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcattgatat 120  
tgaagctcaa ttaagcagta acatgataat tatttttttaa gatnatatgc aacttcccac 180  
atacttttgcg cccttctagg cggcagctgc agccgcattc gctgaatcaa gagacttcag 240  
tggtgctggt gggataggag ttttttcaga gaggctctca gtagcatcta agttgagctc 300  
caaaagtga aaagagctga aaaacagaag aaagaaaaag aaacagaaaag aacagtctgg 360  
agaagaagag aaaaatgaca gagtcctaaa atcggaatct gaagacagca taagaagaaa 420  
aggtttccgt ttttccttgg aaggaagtag gctgacatat gaaaagagat tttcttctcc 480  
acaccaggtg aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata 540  
tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt 600  
agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt 660  
ttggaatccc aggaaggaaa ttttagatcc ctctgggttt ggaaaaattt g 711

<210> 49  
<211> 1026  
<212> DNA  
<213> Homo sapiens

<400> 49  
ttatggggac acttctgact atgttgaggt gtgggtaaag taggagaaaa gagagcagaa 60  
gatggaaaaat ggaggaagga gaaaaagcga gagtgaata gaaaagggtg accttgtaga 120  
aagtgccaaa atgccaccag cagtcattcag aggggtgctt tcttccacat gtccaatgac 180  
ttatccttga gtaagtcaat gactatgaca caatgaatca aattctgttt ttcagaatgc 240  
cagctcttaa ctctcttcat ctcatttttg tttcttttct tgttattcat agtccttact 300  
gagcatccgt ggctcccttt tctctccaag acgcaacagt agggcgagcc ttttcagctt 360  
cagaggtcga gcaaaggaca ttggctctga gaatgacttt gctgatgatg agcacagcac 420  
ctttgaggac aatgacagcc gaagagactc tctgttcgtg ccgcacagac atggagaacg 480  
gcgccacagc aatgtcagcc aggccagccg tgccctcagg gtgctcccca tctgccccat 540  
gaatgggaag atgcatagcg ctgtggactg caatgggtgtg gtctccctgg tcggggggccc 600  
ttctaccctc acatctgctg ggcagctcct accagaggtg aggccaaacy magattgcag 660  
ctgatgtgaa gagagtgtg actggtgtag gcaggaggtg ttttccattt mcacatctaa 720  
gaatttkttg agtttsttgc ccaaaggctg ggagtttgtt caatcaagct gtttaactgtc 780  
ttgtgaaact sttctattca gacttlycta caaagtaatt aaaaacctag gttggctgtc 840  
agagaatata attagamgtm atctttcatc ayyattacta tggatatgaa ctcgcaaaaa 900  
agcaaagcaa caatttatca agcataatgt tygaytaata tagttaaatt aaatccaagg 960  
aaattaatgc tcacaaatta aataaatact taaggatttt gtgattgttg ttcattttaa 1020  
aggaga 1026

<210> 50  
<211> 601  
<212> DNA  
<213> Homo sapiens

<400> 50  
ataggaaagc ccaccttgac aaaccaggg ctccccaaaa gctgaaaatc tgacagactt 60  
taaacaaccc ccaataaatt atcattccaa caatatctta gtgagctttt tacatctgag 120



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aaagcatggt gtatatattag ttaaataaca cctggtgtag gaatgctttg ggctttgctg 180
ctttcaaaaa tagtggttat ttcattctgaa attctacttc tagggcacia ctactgaaac 240
agaaataaga aagagacggt ccagttctta tcatgtttcc atggatttat tggaagatcc 300
tacatcaagg caaagagcaa tgagtatagc cagtattttg accaacacca tggaaggat 360
gttaaaagtc ctgcgtcaca gttacttggt gctttcctaa tgatgaaaaa cacttcataa 420
atttcaataa aatacttcct gacttgatat tgtatcatta ttacacattt tactaaataa 480
cagtaaaatc cgtgcataac tcatggattc atatattcca cagatttttt tttttatat 540
ttagcctgta gaaagctgct gcaaagttaa ggtatatattg aacaccactt tcataactta 600
a                                                                 601

```

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<210> 51
<211> 645
<212> DNA
<213> Homo sapiens

```

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<400> 51
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ttttaattta aaccaaattc gcttaataga aagtaagcag ttttcatgag gattctaact 180
ttttttcttc cagaacttga agaattcaga cagaaatgcc caccatgctg gtataaattt 240
gctaatatgt gtttgatttg ggactgttgt aaacctggtt taaagggtgaa acacctgtgc 300
aacctggttg taatggacct atttggtgac ctggccatca ccatctgcat tgtcttaaatt 360
acactcttca tggctatgga gcactatccc atgacggagc agttcagcag tgtactgtct 420
gttggaacc tggtaagcct cactgagagt ttctcttcct cttgaaagag tttataattg 480
ccttagtgaa ttttacatat tgctctcaaa ttaaatatca actaattggc catgtatatc 540
ttgacatcaa atgttttagca tcccttttaa ataacaaaaa aatgttgcta ccatagtgca 600
aaagagtcaa agaatttatg tacaatttga tttagaattg aattt 645

```

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<210> 52
<211> 485
<212> DNA
<213> Homo sapiens

```

```

<400> 52
tggcccaaac caatttttaa atcaggaatt taatttwtat attgttgga gttaaattaa 60
gttgctcaat aattattcgt gtttcaakas tatttgctca tataatgaac tacacttctc 120
atttaggtct tcacagggat cttcacagca gaaatgtttc tcaagataat tgccatggat 180
ccatattatt actttcaaga aggctggaat atttttgatg gttttattgt gagccttagt 240
ttaatggaac ttggtttggt aaatgtggaa ggattgtcag ttctccgatc attccggctg 300
gtaaattaa tgggagtgtt cataaaatgt actttrtaat taattagtct tcattctcat 360
ctagtaaaaa tggcaagatt tcccatcatt ataatatatt tgaatacctt ctaaaacaga 420
ttggattgcc ataccaccaa atggtagttt cttcttcata atagctttta taaagttcac 480
ttaaa 485

```

```

<210> 53
<211> 602
<212> DNA
<213> Homo sapiens

```

```

<400> 53
acagatttcc tctgtgtgcc atgtgactaa cccattgtgc acatgtaccc taaaaattag 60
tatataataa taaaaataaa taaaaataaa aataaaaaaa taaaaataaa ataaaattgc 120
agattttttt agaaatgcag agattaacac tgttcttgct tttatttcca gtcaggat 180
ttcaagttgg caaatcttg gccaaactcta aatatgctaa ttaagatcat tggcaattct 240

```

```

gtgggggctc taggaaacct caccttggtg ttggccatca tegtcttcat ttttgctgtg 300
gtcggcatgc agctctttgg taagagctac aaagaatgtg tctgcaagat ttccaatgat 360
tgtgaactcc cacgctggca catgcatgac tttttccact ccttcctgat cgtgttccgc 420
gtgctgtgtg gagagtggat agagaccatg tgggactgta tggaggtcgc tggccaaacc 480
atgtgcctta ctgtcttcat gatggtcatg gtgattggaa atctagtggg atgtagcaaa 540
aacattttcc tcattttcat taaaaataat gtaatcatta aaaagtgttc aactgaagaa 600
ta                                                    602

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<210> 54  
 <211> 803  
 <212> DNA  
 <213> Homo sapiens

```

<400> 54
gtttcattta gcaatgattt cagtattttc tgcaatgact aataagcaaa tagtgataat 60
agtattattt tatattgacc aagcattttt atttcattca ctttttttca gaatagtgtg 120
tcatgaatta gcagaaatgc atgttagaat aaaataaggt gtcaagaaca atcttagaaa 180
actaatgatg gaaagcaatt gaagcaatag aatgttttga tcacctgttt ttctgtctgt 240
gtttcagggt ctgaacctct tcttggcctt gcttttgagt tccttcagtt ctgacaatct 300
tgctgccact gatgatgata acgaaatgaa taatctccag attgctgtgg gaaggatgca 360
gaaaggaatc gattttgtta aaagaaaaat acgtgaattt attcagaaag cctttgttag 420
gaagcagaaa gcttttagat aaattaaacc gcttgaagat ctaaataata aaaaagacag 480
ctgtattttc aaccatacca ccatagaaat aggcaaagac ctcaattatc tcaaagacgg 540
aaatggaact actagtggca taggcagcag tgtagaaaaa tatgtcgtgg atgaaagtga 600
ttacatgtca ttataaaaca accctagcct cactgtgaca gtaccaattg ctgttggaga 660
atctgacttt gaaaatttaa atactgaaga attcagcagc gagtcagata tggaggaaaag 720
caaaggagta aaatgttaaa taaggagata ttttggtgta tataatctgt gttaaataatc 780
aggtgtttta tgcgtgtctc tgt                                                    803

```

<210> 55  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

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<400> 55
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aaaaaaaaata ctatggtggt gtatctaata ttgtgacccc tgacctttac caaagcggat 120
tggcattatg ttttaagttct taattacaga tcaagaaaaa tgcatacaga agatgggggg 180
gggcacacct aattaatttt tatattttaga ttaaagaaaa taattaaatg tgtttttttg 240
tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat 300
tggagctccc gccgaggagg aacagcctga ggttgaacct gaggaatccc ttgaacctga 360
agcctgtttt acagaagnnn nnnnnnaagc aaaacaataa catatgtggg cttgagtatc 420
ctctttttcta cccatttttt cctattttatt taaatgtctg tttatttgtc taccatctag 480
ttcatctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctatacctat 540
ccaacaactg tacattttatt tgtttttttt ttttgcattt gctgtttgaa aaaaaatgca 600
acgtttttaa ggcaa                                                    615

```

<210> 56  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

```

<400> 56
gatagctttt gtaagcggaa gctatcttaa aaattaatgt tatttacaat gtattatcag 60

```

```

gtaataatgt aaatgaatct cccaccaaca caaatatacc taatcaaaga gtaatttttt 120
gtcttcattt ttttcccaca tatttttagac tgtgtacgga agttcaagtg ttgtcagata 180
agcatagaag aaggcaaagg gaaactctgg tggaatttga ggaaaacatg ctataagata 240
gtggagcaca attggttcga aaccttcatt gtcttcatga ttctgctgag cagtggggct 300
ctggtaggtg atgcatgac cactccttca cctttcatct gaaatctttt ccctttccct 360
tcaatcaact catattacc acttttaaat taagggtgtt 400

```

```

<210> 57
<211> 560
<212> DNA
<213> Homo sapiens

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```

<400> 57
aaattactga aacccttggt tgactgaaat gccagtcag cagtcattta tgatcagata 60
atgataaagt aaaattcagc catgggaaac attaaacctt ccagccttag gcacctgata 120
agagcttgca tcgtttcctt ttttaagaaa tcatcaatta gagactgttt ctgatacata 180
aatttaatag aattttttga cttacaggcc tttgaagata tatacattga gcagcgaaaa 240
accattaaga ccattgtaga atatgctgac aagggtttca cttacatatt cattctggaa 300
atgctgctaa agtgggttgc atatgggttt caagtgtatt ttaccaatgc ctggtgctgg 360
ctagacttcc tgattgttga tgtgagtatg ctgcactttg ctgctttatt cattggcata 420
tatgtaatag ttctagcaat ggtgcctgac acagtgtagg cactcagtaa cactgtatca 480
gcccaatat aaattatgtt tctcatttca cagtgaagg atgcctcaaa acatttttta 540
ccaatttaaa tacatatata 560

```

```

<210> 58
<211> 480
<212> DNA
<213> Homo sapiens

```

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<400> 58
aaattcttag gcctttcccc aaacttacta agtcagactc tgctattggt gtttttaaca 60
agacccctgg gtgattttga aactcatgaa agttcgagaa ttactgattc attgcataga 120
gcaaggctga actgtgtaga catttttata tgtaaataag aaaattgtgt tgctttttct 180
gtataggtct cactgggttag cttaactgca aatgccttgg gttactcaga acttgggtgcc 240
atcaaattccc tcagaacact aagagctctg aggccactga gagctttgtc ccggtttgaa 300
ggaatgaggg taagactgaa tgccttagag tttgtcagaa ttattattga gagcagactg 360
acactttgta ccatggaaat gtcaaattta tggagaattt gtgtcttaca cattcatact 420
gacatagcta atcaatcaaa aataatattt accagatgcc cataataactt ggcactgctg 480

```

```

<210> 59
<211> 640
<212> DNA
<213> Homo sapiens

```

```

<400> 59
taattttaaa attcttagtt ggagctacca gagtctagtt tctacccaat attcaacttt 60
gaaacagatt tttttaatca tttgactgtt cttttaataa tgtttaaaaa taagtaaata 120
tttggtgttg gcttttact tatttttct tctcatcctg tgccagggtg ttgtaaatagc 180
tcttttagga gccattccat ctatcatgaa tgtacttctg gtttgtctga tcttttggt 240
aatattcagt atcatgggag tgaatctctt tgctggcaag ttttaccatt gtattaatta 300
caccactgga gagatgtttg atgtaagcgt ggtcaacaac tacagtgagt gcaaagctct 360
cattgagagc aatcaaaactg ccagggtggaa aaatgtgaaa gtaaactttg ataacgtagg 420
acttgatata ctgtctctac ttcaagtagt aagtaatcac tttattattt tccatgatgt 480
gtaattaaaa tgagtctaaa gtttttcttc ctcataatga gatatccacc tgtagaatg 540

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gctattatca aacagataaa tgacaataaa tgctggcaag aatgtgaaga aaaggggaacc 600  
 cttgtacatt gttggcaggg atgtaaatta gtatagcttt 640

<210> 60  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<400> 60  
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 agcttattta tatgcctgta ttgaatacat gtcaaataga attttgatca attattcaat 120  
 ttatttttcta aaattataat tttgggaaaa aagaaaatga tatgactttt cttacaggcc 180  
 acgtttaagg gatggatgga tattatgtat gcagctgttg attcacgaaa tgtaagtcta 240  
 gtttagagga aattgttttag ttgattaaa tgtatatattc tacaatattg taatttagtg 300  
 atattgtcaa taaaataaaa ttatgtgctt aatttataaaa acccatctat attataagga 360  
 taaaatattt aatcatacta tttctttcaa aattatcata ggatgatttt ctctaatacac 420  
 tctgtatctt ttaacatatc ttttctagta tttagcaagg cacctgacac aaaactttat 480

<210> 61  
 <211> 366  
 <212> DNA  
 <213> Homo sapiens

<400> 61  
 taaaacatgc ttagataatt aaaaactcac tgatgtactt tttgtgaaac aagtactaga 60  
 tataatgggtt acaattcttc atattcttta ggtagaatta caaccgaagt atgaagacaa 120  
 cctgtacatg tatctttatt ttgtcatctt tattattttt ggttcattct ttaccttgaa 180  
 tcttttcatc ggtgtcatca tagataactt caaccaacag aaaaagaaga taagtatatt 240  
 aaaacttcat ccttgctctg aaatatgaac taaatatttc atactctttc ctttagcctc 300  
 caaaatgcaa tcaccaaaaa aagaatataa aattcagaaa ttattttgag acatttgata 360  
 atcgat 366

<210> 62  
 <211> 560  
 <212> DNA  
 <213> Homo sapiens

<400> 62  
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 aaatatgact aatatggcat aatttatata ttgaataaag gcatctctat aaatacagat 120  
 attagtaaca atagaatgaa atgtgggagc caattttcac atgattacta aggtggattt 180  
 tatagccagc aaagaacaca attttaacaa gtgttgcttt catttcttta ctttggaggt 240  
 caagacattt ttatgacaga agaacagaag aaataactaca atgcaatgaa aaaactgggt 300  
 tcaaagaaac cacaaaaacc catacctcga cctgctgtaa gaataacata ttttcattgc 360  
 ctgttaaaac tatattacct aaccgtttca cagcccgaat ttctagaaac tagttatttt 420  
 tgtggatttg taacacaaag ttttttacct taacaatggg actagctagc ctaaaatagct 480  
 tgaaaaatgt actttacata tataatatgt ataaattata taatgcataa catattttat 540  
 atgtaaacat ataaaataca 560

<210> 63  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<400> 63

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gttttgcaag gaattttttt ttttgtaaaa tgttggtgagg attaaagatg tgttttttata 60
aaagctacat tttttgttgc tttcttaaaa tcagaagaat tgaattcgat tttttttaag 120
gttttctaag gaacttttac atattatttg ttccagaaca aattccaagg aatggtcttt 180
gattttgtaa ccaaacaagt ctttgatata agcatcatga tcctcatctg ccttaacatg 240
gtcaccatga tgggtgaaac cgatgaccag agtcaagaaa tgacaaacat tctgtactgg 300
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cgttactact atttcactat tggatggaat atttttgatt ttgtgggtgg cattctctcc 420
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tttaaaactt tagagggtgtt tttcactaat ctttctcatt catcccaaac tcccaaataa 540
aaatctaata gtccattggtt ttagtttttag tttgccattt ctctaattgc atgctgtgct 600
tgaaatgatg agtgggaatac aaggaattta tattttcagc tttcatttat 650
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<210> 64

<211> 3700

<212> DNA

<213> Homo sapiens

<400> 64

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actttcattt gctactatta agtataacaa tatttttggt atttggtgat tttctacagg 180
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cgtattttta aggtgtctca tccagaaaaa atttaatgtg cctgtaaatg ttccatagaa 2100
tcacaagcat taaagagttg ttttattttt acataaccca ttaaattgtac atgtatatat 2160
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ataagtgtcc	tttggcataa	aataaaaaata	tcctatcagt	ccttttctaag	aagcctgaat	2340
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aatgtttgtt	tacacagata	gatcttattg	acccatatgg	cactagaact	gtatcagata	3360
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attgttgtct	ttgtttctat	ctttgaaatg	ccatttaaag	gtagatttct	atcatgtaaa	3660
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<210> 65  
 <211> 9112  
 <212> DNA  
 <213> Homo sapiens

<400> 65						
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ctctgtggtc	aaaaaaaaaa	aaaaaaaaaa	aagctgaaca	gctgcagagg	aagacacggt	180
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gatacctgtc	aaggattcat	agtagagtgg	cttactggga	aaggagcaaa	gaatctcttc	360
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tcagcatgct	tatcatgtgc	actattttga	ccaactgtgt	atttatgacc	ttgagcaacc	1080
ctcctgactg	gacaaagaat	gtagagtaca	cattcactgg	aatctatacc	tttgagtcac	1140
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 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu  
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 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly  
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 Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr  
 100 105 110  
 Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser  
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 Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr  
 145 150 155 160  
 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg  
 165 170 175  
 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp  
 180 185 190  
 Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp  
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 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu  
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Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe  
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 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn  
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 275 280 285  
 Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr  
 290 295 300  
 Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly  
 305 310 315 320  
 Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu  
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 Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys  
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 Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr  
 355 360 365  
 Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr  
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 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu  
 465 470 475 480  
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 485 490 495  
 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu  
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 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser  
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 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn  
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Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu  
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Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser  
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Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp  
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Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg  
 595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn  
 610 615 620

Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr  
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Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala  
 645 650 655

Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu  
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Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe  
 675 680 685

Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val  
 690 695 700

Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys  
 705 710 715 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr  
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Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly  
 740 745 750

Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr  
 755 760 765

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser  
 770 775 780

Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val  
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Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp  
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Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala  
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Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala  
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Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys  
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Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe  
 865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile  
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Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
 900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
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Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
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Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
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Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys  
 965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu  
 980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile  
 995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly  
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Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp  
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Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile  
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Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser  
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Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser  
 1075 1080 1085

Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu  
 1090 1095 1100

Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe  
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Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu  
 1125 1130 1135

Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser  
 1140 1145 1150

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu  
 1155 1160 1165

Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg  
 1170 1175 1180

Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr  
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Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln  
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Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp  
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Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu  
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Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg  
 1250 1255 1260

Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn Ala Leu Val  
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Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe  
 1285 1290 1295

Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe  
 1300 1305 1310

Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp  
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Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp  
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Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala  
 1345 1350 1355 1360

Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala  
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Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn  
 1380 1385 1390

Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe  
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Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln  
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Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln  
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Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln  
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 1460 1465 1470  
 Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys  
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 Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr  
 1490 1495 1500  
 Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe  
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 Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro  
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 Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met  
 1585 1590 1595 1600  
 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val  
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 Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys  
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 Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn  
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 Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly  
 1650 1655 1660  
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 1665 1670 1675 1680  
 Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser  
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 Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val  
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 1730 1735 1740  
 Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu  
 1745 1750 1755 1760

Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu  
1765 1770 1775

Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met  
1780 1785 1790

Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr  
1795 1800 1805

Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln  
1810 1815 1820

Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu  
1825 1830 1835 1840

Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala  
1845 1850 1855

Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys  
1860 1865 1870

Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp  
1875 1880 1885

Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser  
1890 1895 1900

Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser  
1905 1910 1915 1920

Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys  
1925 1930 1935

Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys  
1940 1945 1950

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<211> 1951

<212> PRT

<213> Homo sapiens

<400> 68

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Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile  
50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu  
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Ile	Gln	Ser	Val	Lys	Lys	Leu	Ser	Asp	Val	Met	Ile	Leu	Thr	Val	Phe	
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Cys	Leu	Ser	Val	Phe	Ala	Leu	Ile	Gly	Leu	Gln	Leu	Phe	Met	Gly	Asn	
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Thr	Asn	Thr	Thr	Ser	Tyr	Phe	Asn	Gly	Thr	Met	Asp	Ser	Asn	Gly	Thr	
	290					295					300					
Phe	Val	Asn	Val	Thr	Met	Ser	Thr	Phe	Asn	Trp	Lys	Asp	Tyr	Ile	Gly	
305					310					315					320	
Asp	Asp	Ser	His	Phe	Tyr	Val	Leu	Asp	Gly	Gln	Lys	Asp	Pro	Leu	Leu	
				325					330					335		
Cys	Gly	Asn	Gly	Ser	Asp	Ala	Gly	Gln	Cys	Pro	Glu	Gly	Tyr	Ile	Cys	
			340					345					350			
Val	Lys	Ala	Gly	Arg	Asn	Pro	Asn	Tyr	Gly	Tyr	Thr	Ser	Phe	Asp	Thr	
		355					360					365				
Phe	Ser	Trp	Ala	Phe	Leu	Ser	Leu	Phe	Arg	Leu	Met	Thr	Gln	Asp	Tyr	
						375					380					

Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr  
 385 390 395 400  
 Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val  
 405 410 415  
 Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln  
 420 425 430  
 Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met  
 435 440 445  
 Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala  
 450 455 460  
 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu  
 465 470 475 480  
 Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala  
 485 490 495  
 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu  
 500 505 510  
 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser  
 515 520 525  
 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn  
 530 535 540  
 Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu  
 545 550 555 560  
 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser  
 565 570 575  
 Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp  
 580 585 590  
 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg  
 595 600 605  
 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn  
 610 615 620  
 Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr  
 625 630 635 640  
 Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala  
 645 650 655  
 Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu  
 660 665 670  
 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe  
 675 680 685

Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val  
 690 695 700

Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys  
 705 710 715 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr  
 725 730 735

Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly  
 740 745 750

Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr  
 755 760 765

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser  
 770 775 780

Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val  
 785 790 795 800

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp  
 805 810 815

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala  
 820 825 830

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala  
 835 840 845

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys  
 850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe  
 865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile  
 885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
 900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
 915 920 925

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
 930 935 940

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
 945 950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys  
 965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu  
 980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile  
 995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly  
 1010 1015 1020

Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp  
 1025 1030 1035 1040

Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile  
 1045 1050 1055

Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser  
 1060 1065 1070

Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser  
 1075 1080 1085

Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu  
 1090 1095 1100

Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe  
 1105 1110 1115 1120

Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu  
 1125 1130 1135

Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser  
 1140 1145 1150

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu  
 1155 1160 1165

Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg  
 1170 1175 1180

Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr  
 1185 1190 1195 1200

Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln  
 1205 1210 1215

Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp  
 1220 1225 1230

Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu  
 1235 1240 1245

Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg  
 1250 1255 1260

Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn Ala Leu Val  
 1265 1270 1275 1280

Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe  
 1285 1290 1295

Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe  
 1300 1305 1310

Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp  
 1315 1320 1325

Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp  
 1330 1335 1340

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala  
 1345 1350 1355 1360

Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala  
 1365 1370 1375

Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn  
 1380 1385 1390

Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe  
 1395 1400 1405

Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln  
 1410 1415 1420

Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln  
 1425 1430 1435 1440

Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln  
 1445 1450 1455

Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp  
 1460 1465 1470

Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys  
 1475 1480 1485

Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr  
 1490 1495 1500

Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe  
 1505 1510 1515 1520

Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His Tyr Tyr Phe  
 1525 1530 1535

Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile  
 1540 1545 1550

Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro  
 1555 1560 1565

Thr Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg  
 1570 1575 1580

Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met  
 1585 1590 1595 1600

Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val  
 1605 1610 1615

Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys  
 1620 1625 1630

Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn  
 1635 1640 1645

Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly  
 1650 1655 1660

Leu Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp  
 1665 1670 1675 1680

Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser  
 1685 1690 1695

Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val  
 1700 1705 1710

Val Val Asn Ser Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala  
 1715 1720 1725

Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe  
 1730 1735 1740

Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu  
 1745 1750 1755 1760

Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu  
 1765 1770 1775

Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met  
 1780 1785 1790

Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr  
 1795 1800 1805

Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln  
 1810 1815 1820

Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu  
 1825 1830 1835 1840

Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala  
 1845 1850 1855

Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys  
 1860 1865 1870

Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp  
 1875 1880 1885

Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser  
 1890 1895 1900



Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser  
 1905 1910 1915 1920

Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys  
 1925 1930 1935

Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys  
 1940 1945 1950

<210> 69  
 <211> 1380  
 <212> DNA  
 <213> Homo sapiens

<400> 69  
 aatgtattta ttttaattgat gataaaactgt aataaaatca tagttgtttg ctctaaagta 60  
 gatatgaaag gtcagatgaa acaataacat acatctggat tgagaaatat cttaataact 120  
 gatggattat ttttattttc tttatgtatt gtgtgcttca atatcctaataa aaataatatt 180  
 agctaggttc actgatgtat agaatctttt tctacattta gatatttctt gcaaagtgtt 240  
 taccagaaag caacacaaaa atactatcag tgagtatgtg tttacactgt tctctaagga 300  
 gtcaaattcc tcaccttgaa aataattcat cccaggaaga gaaaagggtt tcaaaagact 360  
 agagcaggcc acaagggagc tttcgcaaaa ctctacacgt aaagggtaat gttaaacttaa 420  
 aacctatttt tcaaacagta atttatatat cttttaattt tagtagttta tgtgtgaaac 480  
 aatcatgcaa aacaacaaag tgataaaatt ttttaaaaaa attagtgaaga tgcaaataac 540  
 tgaatatgta aaagggtctca tacatatatta tatgtagtag ataagttaca tttttttagt 600  
 gtgttgggaa attttagctc acatcacctc tctactgtca tcttggggca ctttcatgac 660  
 taccatgctc tcatgcaggc ttacttttct cctgtgaca gaggataatg ggaatgtttt 720  
 ttcttttggt caattttgtg tgtgtccgac agtagatggc gtaccacttt gagtgcgatc 780  
 ggcccttttt tcttttcttt ttttttctct caaagctgtt ttctgatata tgttgggtac 840  
 catagagtga atctcagaac aggaagcgga ggcataagca gagaggattc tggaaagggtc 900  
 tctttgtttt cttatccaca gagaaagaaa gaaaaaaaat tgtaactaat ttgtaaacct 960  
 ctgtgggtcaa aaaaaaaaaa aaaaaaaaaa gctgaacagc tgcagaggaa gacacgttat 1020  
 accctaacca tcttggatgc tgggctttgt tatgctgtaa ttcataaggc tctgttttat 1080  
 caggtaagct gacaaaacat ttcattatct gcaccataga acctagctac caggtcattt 1140  
 tccttacttt aaaatcatct tcatgctgct atttttaacc cagtgttgtt taaatgtaaa 1200  
 ttacaggaac caaaggcatc gtttgatgtg taaactgctt actatttctt tatctttcaa 1260  
 agaaaataga gcctgtctgg aaatggtgat ttatggtaca tactaggcat caatggtctt 1320  
 gtgtttttgt agatgcttat gattaattgt attcagaaaa aatatttttt attatactta 1380

<210> 70  
 <211> 840  
 <212> DNA  
 <213> Homo sapiens

<400> 70  
 aggaagaac agaaggatgc tcaggagtgc cagcatgcct tcagaaagac taaatggatc 60  
 aaggctgcca aagaaggggg agcacccttg tcccaaccct aggatcctgg cagtgggttc 120  
 tgggtccatt cttcctaaat catgctaggg catgctttta acaaggggtca aatatcttgc 180  
 tttgcatcat ccttgccttc tcgatccagg gccataaaaa aaaaagggaat aaaaccacaga 240  
 cacagagcca gagcaccctc atgccaatg tcaaagatta taggctaatt tcacctgtat 300  
 tctctttcta cagagattat ggagcaagaa aactgaagcc aagccacatc aaggtttgac 360  
 agggatgaga tacctgtcaa ggattcatag tagagtggct tactgggaaa ggagcaaaga 420  
 atctcttcta gggatattgt aagaataaat gagataattc acagaaggga cctggagctt 480  
 ttccggaaaa aggtgctgtg actatctaag gtaactaaac aacttctggg tataagtttg 540

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tttttgtgga aaataaacta aaatctctac tatttaacaa ggacagctgt atcaggacca 600
aaagaaggca gaggggtggt ttcttccttc ctctaccagt ttgttcttcc aaagaggcaa 660
atacatacag ggagacatag cacagatgac cttaggggaat ggaatgatgc caaaggctgt 720
tgatgtaaga aagagagatt aactcagttt tttttttgtt tttgtttttt tgttgttgtt 780
gttgttgttt tgagacagag tctctctctg tcgcccaggc tggagtgcag tggcatgaac 840

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<210> 71
<211> 780
<212> DNA
<213> Homo sapiens

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<400> 71
gatatattaa attttatgta ttttaataaa ttataatgtg catataatca ttaataatat 60
atatattcca caccaaggca tcagtaagaa ttaattttta aagtctgctc taatgtgaat 120
ataaaattat gtaagaactc tgtataataa gctcacagag tacaagaaag gagaggaaaa 180
aagtaaaaaga gaactgcgaa agaactatga gggatttcca aacagcaaaa ttgtcattga 240
agccatgaga aactctactc actaaattct ttaatttctc agcctaccca aatattgggc 300
aaaccctaatt tctcttgagc gggaaaagct gagagtctgg aactagccta tcttccgagg 360
acttagagac aacagtatgg gaatttcaac gagacgtttt tactttcttt tgaccaagat 420
tcaaatttctt tattccagcc cttgataagt aaataagaag gtaaaggact atttatttgt 480
aaaaagtttt tcatgatatt gtgatggcac cttgttccat atcatctcag ataaatcaga 540
ataatttgtg aaaattactc ggtgatattc acattagata ttttaaacct aatgttattt 600
ctaaaacaaa aaccaaccag gagaatccaa ttaagtaaaa tgtatgtatt aatataaatt 660
agctattccc atctggaaaa gggcagccat ttctgtgttg aggtgcctca atgatactga 720
ggctgagaca ggttagatga tacaggcata ccattagcag cagactcaat actaaccag 780

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<210> 72
<211> 1025
<212> DNA
<213> Homo sapiens

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<400> 72
acaaagttaa gaaaaggcgg ggggcaggat gcagaataat taagcaattt tattgacaaa 60
ctthactggc attactcttt tgctgaaagt atactatatt ttggcttaca gtgtcaaaac 120
agaatttttt aaatgctttt aaaaaatgga caaaattata gatattcttg agtttaaata 180
taatgtttat atattatata tactgtacat tgtagaatgg ctaaatcaaa ctaattaaca 240
ttaagtacag acttttgata gatttatgaa cttggcttat tgagaatgag gttgaatgat 300
gatgttttca agttcaaagt tgtagtgcag tactaaaagc atgacttaat gtttatagct 360
ttaaaaagtt actaaagaat gacatttttg ttgatgttct tatgccaat cgcttgcttt 420
cctaactctt gtgcaatttt tctttttatt gcaggtaatt cgtatgcaag aagctacacg 480
taattaaatg tgcaggatga aaagatggca caggcactgt tggtagcccc aggacctgaa 540
agcttccgcc tttttactag agaattctctt gctgctatcg aaaaacgtgc tgcagaagag 600
aaagccaaga agcccaaaaa ggaacaagat aatgatgatg agaacaaacc aaagccaaat 660
agtgacttgg aagctggaaa gaaccttcca tttatttatg gagacattcc tccagagatg 720
gtgtcagagc ccctggagga cctggatccc tactatatca ataagaaagt gagtattgat 780
tttagacttc taataaatct ttaatgaaac tcttaactgt aatatacttt tctgggcctt 840
atatacagca tcacaatttt tcttotgtta aagattttat aatactcttc actgtcactt 900
atttttatca caatataata aaacaaacat ttataagaaa tgaagtcaag agttgggttac 960
agtcaggaaa tatgaataga tgaatgattt ctacaatttc acagtgataa ttcagatagt 1020
caaaa 1025

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<210> 73
<211> 433
<212> DNA

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<213> Homo sapiens

<400> 73

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tgtaacyata tgtaatttta aacatctaac atgtttgtag ttatgatata tcaactgggt 60
taacaaacc agtttgaaca aacaaattcy attttttaaa aaggtcctca tgtatgtaag 120
ctccttaaat aagcccatgt ctaatttagt aattttactc gtattttctg tttcagactt 180
ttatagtaat gaataaagga aaggcaattt cccgattcag tgccacctct gccttgata 240
ttttaactcc actaaaccct gttaggaaaa ttgctabsaa gattttggta cattcatatc 300
cttttaatgt gaattgccta aatgctattt ctaacagttg attttaaaga aaatgtcagt 360
tatattttca agtatctgta aaatttcttt gagattaatg gtaacattgt tagtttaatt 420
catttatttg cat 433
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<210> 74

<211> 450

<212> DNA

<213> Homo sapiens

<400> 74

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gagtgcacca aggccatata acaggctttg aagtttctta ttattttatc attgttttaa 60
aacaataat attaatttca cagtttttgc atcgataaac ttttttggt gttttggatc 120
atttataaat ggccatggta acctactaac atttattcct taactataat ctactttatt 180
cagcatgctt atcatgtgca ctattttgac caactgtgta tttatgacct tgagcaaccc 240
tcctgactgg acaagaatg tagagtaagt aggaataact tctgggaatg agaaatgcac 300
actcaaattc tctagcaatc tccttggtgg tatagcctga cttatggttt ccacttctgt 360
ctaagaaaag ttattttcat aatatgcagc cggttaagga ggtctttcgg gggagctatt 420
cttctacgag gtaagtattt tcccacaaaa 450
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<210> 75

<211> 701

<212> DNA

<213> Homo sapiens

<400> 75

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aaaatttacc atttgyggct ttccattaca tttctatcag ataactctgc gctagtaggt 60
caaactagat gattatccat aagatacatg aaactattat tctaaaaccc aaatagttaa 120
accagattag attcctaaag aatatatttt ctcttcagtt taactctttg ctcaggcttg 180
taaaactaac taaatgaata gattatttgg taaatagaag taaggaacaa tattttaatg 240
aattgaaaaa ccacaaaagg ataggatttg ctatgattga aaacatttat tttaacagtt 300
caagcaaaat tgtaattttt ggcttggatg tttttcctag gtacacattc actggaatct 360
atacctttga gtcacttata aaaatcttgg caagaggggt ttgcttagaa gattttacgt 420
ttcttcgtga tccatggaac tggctggatt tcagtgtcat tgtgatggcg tgagtaactt 480
tgaaaatttg ataagcgcaa aggagtgaat atagtcatag tacaacaag gtcttttgtt 540
catatattaa atgtagagct ttcttgtag tcaagttaac tatatgggtt gtgtattttc 600
agaatacata ttagaataca tattgcaatg taaatatatc cagtaaata tcaataaatg 660
gggttatctt catgtcatat agtctttctc ttcacaaaa t 701
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<210> 76

<211> 286

<212> DNA

<213> Homo sapiens

<400> 76

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atttgtaaata ctacagggc tctatgtgcc aaaccagca ttaagtcctt atttagtata 60
aactttgccaa aaactatcag taactctgat ttaattctgc aggtatgtaa cagaatttgt 120
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```

aagcctaggc aatgtttcag cccttcgaac tttcagagtc ttgagagctc tgaaaactat 180
ttctgtaatc ccaggtaaga agaaactggg gtaaggtagt aggccctta tatctccaac 240
ttttcttggtg tggtattgtg tttgtgtgtg aactccccta ttacag 286

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<210> 77
<211> 515
<212> DNA
<213> Homo sapiens

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<400> 77
gtaagaagaa actggtgtaa ggtagtaggc cccttatatc tccaactttt cttgtgtgtt 60
attgtgtttg tgtgtgaact cccctattac agatatgtga cagagtttgt ggacctgggc 120
aatgtctcag cggtgagaac attcagagtt ctccgagcac tgaaaacaat ttcagtcatt 180
ccagggtgaga gctagggttaa acaccgaggt tgactttaat tattgagttt gaaatcaatt 240
tatatgactt acagcattag ccttggttgct tattattaca gtccatcccc gtaaataatg 300
ccaaatgatg tttcaatgtc agtttagctc ctaaaatttt ataaattaca tgcgtattta 360
taaaagtcagc ctttgagttt aacagaaaaat tgcagtagac atcttcaaaa aatgctaatt 420
tgggcctctt gcgctctctc tctctctttt tcactaccat ggctttacta acagatttgg 480
attttaccat tcgctgcaga tgtagttaa aaatg 515

```

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<210> 78
<211> 564
<212> DNA
<213> Homo sapiens

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<400> 78
aaacttcctg actagatatt taaaccttca tattgaattt ccagcaagca cactgttcat 60
gtgtaaaatc tgctgttcat ctatttccca aatcatcagg ctatccatac agctttgggtg 120
tctaaatagt caagcaatca tttatggggg aaagagaatg tgtgtgacta ttaagaaatc 180
atgatttctg gcactcttcc tcaggtaacc tatagttctc tctctgcagg tttaaagacc 240
attgtggggg ccctgatcca gtcggtaaag aagctttctg atgtgatgat cctgactgtg 300
ttctgtctga gcgtgtttgc tctcattggg ctgcagctgt tcatgggcaa tctgaggaat 360
aaatgtttgc agtggccccc aagcgattct gcttttgaaa ccaacaccac ttcctacttt 420
aatggcacaa tggattcaaa tgggacattt gttaatgtaa caatgagcac atttaactgg 480
aaggataaca ttggagatga cagtaagaag tattacatta tgttaacctt agtgttgctg 540
aatgaatttt caactataaa tagt 564

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<210> 79
<211> 497
<212> DNA
<213> Homo sapiens

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<400> 79
tgagactgtg ggtgtacagc cacctttgta aataactgaa atagtccaac tctgatttat 60
tactaatact aatgtgaata ggattaatat gaaataaaat gggttttttt ttgtattaac 120
aggtcacttt tatgttttgg atgggcaaaa agacccttta ctctgtggaa atgggtcaga 180
tgcagggttaa gaaacataat atatatTTTT aagatataga actctttgcg aaaaaaaaaa 240
gtaggttaga aaacaactac atggttatat gtgtagcctt accatgtatg caataaagag 300
cagtgtgtct cccctaggaa gtgccttgct tgccttaccg gattgccact ggtccctaaac 360
tcacagcaat taaaaattat ccctttgtga agacccttcc ccaaaatttc acagttaaga 420
tgttcttaaa ttgatgtctc aatgtgtgaa ggcccagagt ctgtctttgc tgtacatcta 480
tcagagctgt taggaaa 497

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<210> 80  
<211> 501  
<212> DNA  
<213> Homo sapiens

<400> 80  
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tcatctgata agtttcacgg tgggcaatca cctaaagtgt tctggaaatt aaagcaagat 180  
aattcgtcac agatagcagc tttgggtttt gaaaattcct ataagtcaaa taaattgaaa 240  
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aggatacatc tgtgtgaagg ctggtcgaaa cccaactat ggctacacaa gctttgacac 360  
ctttagctgg gctttcctgt ctctatttcg actcatgact caagactact gggaaaatct 420  
ttaccagttg gtaagggtcca aatgagcatg cataacattt atttttatag acatgtatga 480  
aatgaaaagc ataggctgag t 501

<210> 81  
<211> 432  
<212> DNA  
<213> Homo sapiens

<400> 81  
agctaattag tctactgact atctaactgt ggtaatcaga tatttatttg gggacattat 60  
actaaaatac tgatggaatt atccccatt tcccctagac attacgtgct gctgggaaaa 120  
catacatgat attttttgct ctggtcattt tcttgggctc attttatttg gtgaatttga 180  
tcttggtgtt ggtggccatg gcctatgagg ggcagaatca ggccaccttg gaagaagcag 240  
aacaaaaaga ggccgaattt cagcagatgc tcgaacagct taaaaagcaa caggaagaag 300  
ctcagggtact gagtgataaa mgcaaagatt tatcattatt attmttagtt tctaagtaga 360  
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gtcattagac ac 432

<210> 82  
<211> 489  
<212> DNA  
<213> Homo sapiens

<400> 82  
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gttggaagt tcttcagaag catcaaagtt gagttccaaa agtgctaaag aatggaggaa 180  
ccgaaggaag aaaagaagac agagagagca ccttgaagga aacaacaaag gagagagaga 240  
cagctttccc aaatccgaat ctgaagacag cgtcaaaaaga agcagcttcc ttttctccat 300  
ggatggaaac agactgacca gtgacaaaaa attctgctcc cctcatcagg tatgatatttc 360  
tactaagtgc tctggtttct ttgtcattgc tattgctttt tagtttttgt attttgtttt 420  
ggtacacttt tgtactatct gtacttcagt tgagggacag ggaactaaca tttaatatag 480  
ttgtttaaa 489

<210> 83  
<211> 653  
<212> DNA  
<213> Homo sapiens

<400> 83  
gtgaagacta aatgaagtgg ttgtatactt agtaaattgc aatcagtat tgtagtcag 60

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aaaaaactc tttgtactta aatttgcttt aataaaaata tcaaaatata tgtgtcctct 120
ataaatttga ttatccatgt ttaagggcaa gagtatacta actccaaaga aaacagatcc 180
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<210> 84  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

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<400> 84
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tgcaaagaaa tgctatgttg tggtgtatta cttattggga agagtgggtt gagccatcag 180
tatttggttt gcagggcacc accactgaaa cggaagtcag aaagagaagg ttaagctctt 240
accagatttc aatggagatg ctggaggatt cctctggaag gcaaagagcc gtgagcatag 300
ccagcattct gaccaacaca atggaaggta agagcaggtc atggaacagc caactttctg 360
tgattatgtg ctttgtgaac tattccttct tttcatagaa ttactgaagt ctgttacctc 420
gatcgaacta tatatttagc ctaagaatgt gatatatggt gtacattatc acattgntta 480
caaaactaat attggcctta ttctttttga cttgggtcct taccttactt gcagagtgat 540
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<210> 85  
 <211> 748  
 <212> DNA  
 <213> Homo sapiens

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<400> 85
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cttctcaagt ttcttaagta atatgaactt ctattttcaa atataagcat caattttgtt 180
aaataatgta aaatctacta gcaataataa ctcatttttg ttgttattta ctactcttcc 240
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gatttgccaa tgtgttcttg atctgggact gctgtgatgc atgggttaaaa gtaaaacatc 360
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taaataccct ctttatggcc atggagcact accccatgac tgagcaattc agtagtgtgt 480
tgactgtagg aaacctggta agtacatttg aagtttactt atttactttg gtagatgttg 540
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ctttctcat agaaagaaat atctaaggaa tattacaggg aatctcagag atacagccta 660
aaactcaact ggtatgaatg ctgattgttt aggccaatgt ctgtgctgat tgatcatggt 720
gtcttaccag ttgtaaacgt ctcaaaat 748

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<210> 86  
 <211> 664  
 <212> DNA  
 <213> Homo sapiens

<400> 86

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tgtctaagt tcttctttat aaattcgtgt agcatcagtg ttttcagtg tcttgatagt 120
agtgctgac tctaattttt taggtcttta ctgggatttt tacagcagaa atggttctca 180
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tgcgatcatt cagactggta tctattttata tatatccctg tcgctcattg gcacaacatt 360
tattttgaaa ttgaatcaat gtatatttat ataattatta attttaattt taaatttaca 420
tcaatatgtg acattctaag aaaacatgta aacatccyct ttaaagctaa accattttct 480
aagaatgatg aaagcattca aaatactcta taatgattag gtatgtaggg cacattagaa 540
aacctacaag tactttctaa aactgtgttt taagtttatg aagctttttt ggccttacag 600
tctgtaaaga tacgcaaata aaaatttaga cccaggttaa ttttagcttt ttattaaccc 660
tact

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<210> 87  
 <211> 750  
 <212> DNA  
 <213> Homo sapiens

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<400> 87
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ccacgtgtgg ttctatgata ccacatacta ataaaataat gtctaaaatt atattatgat 180
tactactaac agcatctttt cacttgatta cagcttagag ttttcaagtt ggcaaaatcc 240
tggtccacac taaatatgct aattaagatc attggcaatt ctgtgggggc tctaggaaac 300
ctcaccttgg tggtggccat catcgtcttc atttttgctg tggtcggcat gcagctcttt 360
ggtaagagct acaaagaatg tgtctgcaag atcaatgatg actgtacgct cccacgggtg 420
cacatgaacg acttcttcca ctccttcctg attgtgttcc gcgtgctgtg tggagagtgg 480
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agaacaagag cagacagtag ctaggaacgt ggccagatgt agtaaacata tctctggttt 660
atagtaagt gcctagactg aaatccccct attagcactc agagaataag caagttattt 720
aacttctcct gggctctggg ttcccatttt

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<210> 88  
 <211> 768  
 <212> DNA  
 <213> Homo sapiens

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<400> 88
ccttagagca ggatattagg tcctttaaaag agtgtgtgac ttagacatgg catctgaaat 60
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ttttaggctg ttattttaa gcatatttca atattaarat aggcattttt ctttttttct 180
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ctgctactga tgatgacaat gaaatgaata atctgcagat tgcagtagga agaattgcaa 300
agggaattga ttatgtgaaa aataagatgc gggagtggtt ccaaaaagcc ttttttagaa 360
agccaaaagt tatagaaatc catgaaggca ataagataga cagctgcatg tccaataata 420
ctggaattga aataagcaaa gagcttaatt atcttagaga tgggaatgga accaccagt 480
gtgtaggtac tggaagcagt gttgaaaaat acgtaatcga tgaaaatgat tatatgtcat 540
tcataaacia cccagcctc accgtcacag tgccaattgc tgttgagag tctgactttg 600
aaaacttaaa tactgaagag ttcagcagtg agtcagaact agaagaaagc aaggaggtaa 660
ggaatgcttt taaatttttt gttccatttc ctatgataac catgtactac agttatttac 720
tatttttcatt gtgcttatat gcattatcga aaagcaatga ttgtaagt 768

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<210> 89

<211> 471  
<212> DNA  
<213> Homo sapiens

<400> 89  
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ttgaaatggg attttgtttc cagaaattaa atgcaaccag ctcattctgaa ggaagcacag 180  
ttgatgttgt tctaccccgga gaaggtgaac aagctgaaac tgaacccgaa gaagacctta 240  
aaccggaagc ttgttttact gaaggtaaac aagctctgat gtgattaaat acaatctccc 300  
cttgttcttt acggagactg aatatgcctc atttaaaaaa aaaaatttag caaacgaggt 360  
gtggtggctt atgcctgtaa ccccaaaatt ttgggaggct acggtaggag gattgcttga 420  
ccccaggagt ttgagaccac cctgggaaat gtagtaaggc tttgcctcta c 471

<210> 90  
<211> 623  
<212> DNA  
<213> Homo sapiens

<400> 90  
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gctgacgata actaggaaat gaaggagatg gttaccctat gaaatgatta cctggaagtg 120  
gagtggggaa ggggcaagaa agtttatttt ttcctattta agattaaaat atatttttta 180  
attaactata tttsattttt aggatgtatt aaaaagtttc cattctgtca agtaagtaca 240  
gaagaaggca aagggaagat ctggtggaat cttcgaaaaa cctgctacag tattgttgag 300  
cacaactggt ttgagacttt cattgtgttc atgaccttc tcagtagtgg tgcattggta 360  
agtgaatgc atattggcaa gaatcagatt ctggtgaaat agtttattct ccaaaaattac 420  
cagatgcaaa cactgagctt cagaatcaaa agaaaaggca tatctgtgtc ttgcagagct 480  
tgccacccaa ggtttaacga tgcaaaattc agttctgaac aaatcagcac catgaaacag 540  
ccagatggaa tttctcatct ggtgtttatc taacagatgt tttcctcact gagacaacca 600  
tttcagagaa cattctgtaa cca 623

<210> 91  
<211> 520  
<212> DNA  
<213> Homo sapiens

<400> 91  
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ttattctttt gtactcacta ttatactaag caattttttc aaatatttag aagaagcaag 120  
ccattttaagt aaaataaaaat atttttgatt cataggcctt tgaagatata tacattgaac 180  
agcgaaaagac tatcaaaaacc atgctagaat atgctgacaa agtctttacc tatatattca 240  
ttctggaaat gcttctcaaa tgggttgctt atggatttca aacatatttc actaatgcct 300  
ggtgctggct agatttcttg atcgttgatg taagtatttt aagtgatttt tataaaattg 360  
tttttaaaag aggcaagttt gacatttcat atgtttctgt tattaaaact ttcactaata 420  
atgacataat tatgcagtta tttaaacaaa actgtaacat atgcaacaat gaggaatatc 480  
tcatgggaaa gagtagagga ggtcctaaac atgggcagtg 520

<210> 92  
<211> 595  
<212> DNA  
<213> Homo sapiens

<400> 92



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attgacacgt	gttgataaat	atgggcaagt	attctggttt	cattgggtta	aaaaaagcaa	180
tagtatgaga	tgagactggc	aatataagat	gacccacta	tgtggaagat	gaaagttgcc	240
aaggatgtc	caaattagta	tttagtctgc	attaaataga	taccacacc	tataccttca	300
gtcaacagtt	tatttcttgg	tgaactaatt	aatttttttt	tccttttgta	ggtttctttg	360
gttagcctgg	tagccaatgc	tcttggctac	tcagaactcg	gtgccatcaa	atcattacgg	420
acattaagag	ctttaagacc	tctaagagcc	ttatcccgg	ttgaaggcat	gagggttaaga	480
agaatagaca	ctctaattat	tcatgtcaaa	aattacatgt	aggtaatgat	ttagatagaa	540
aagggtgcc	tactcttctg	atatttattt	caatagaaat	tacagaatta	gaagc	595

<210> 93  
 <211> 787  
 <212> DNA  
 <213> Homo sapiens

<400> 93	
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aacgggtaac	atgtttgaca ttagtgatgt taacaatttg agtgactgtc aggcctcttg 480
caagcaagct	cgttgaaaaa acgtgaaagt aaactttgat aatgttggcg ctggctatct 540
tgactgctt	caagtggtaa gtggctactg tacgagtttt gaaaaagttt tcaagatgtt 600
tcaaggaaga	ttatttccct gatgttcttc gtttgaatga ctaacatttg acagcatgaa 660
aaaaagttaa	tgataacacc tataatatca gcttgaattg atcataaaaa agatgttaca 720
attattttat	aatgtatttt ccttagtggt aagcttttag tatgttttaa tgtgatttta 780
tatttct	

<210> 94  
 <211> 438  
 <212> DNA  
 <213> Homo sapiens

<400> 94	
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tttcatctgg	ttaaatgtca ttgttaggtg aaatttttat gaacaattca aatatatgtt 180
atttacaggc	cacattttaa ggctggatgg atattatgta tgcagctgtt gattcacgag 240
atgtaagtat	cactcaaata ttatttatag gttctagatt tcttatgggt aatattgggt 300
gtaattttaa	cactgataca tccaaaattc tatattagaa catttaatat tgcataataa 360
aaatgaacag	tctgcttcaa tatagatgat gcttgattaa tgtgtgccta atatacaata 420
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<210> 95  
 <211> 637  
 <212> DNA  
 <213> Homo sapiens

<400> 95	
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actagatcat actagtttta aaaaattggt tttgtagaac aatatctcag ggtaaggcaa 120
aagtagcact gtattaagta acagcactca ataaattact gatttagtgt aagtatttat 180
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<210> 96  
 <211> 637  
 <212> DNA  
 <213> Homo sapiens

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<400> 96
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aagaattact tgtctccttt aatgttccaa agccatgcgt ccatatggtc aaattgagca 420
atgctctgga gcagaacata ttaggtgata tcaccaatat tgagccctaa ttataaagtt 480
catattttgc atcataattc acaacttctg cactcattag gagttaccac attccaaaaa 540
aaggaggtaa tgttctttat aatttgtgag ttgaaaactt ctagctcagg gttcctaata 600
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<210> 97  
 <211> 759  
 <212> DNA  
 <213> Homo sapiens

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<400> 97
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gaagagaaaa aaagcacaca aaattgtttg gggtaatatg aggagggtgc acatccatcc 120
cgtatgtgga agggctttat ctacaatttt actgcattat tctttatgaa atatatatag 180
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ggtaagaaca gcttaattac caagaggtat agttacagag aaacagttgc cccaggacct 540
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tagaaacat gtttaggaata ccagatttgg gaaagaggtg aagaagacag gaaataaaca 720
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<210> 98  
 <211> 3975  
 <212> DNA  
 <213> Homo sapiens

<400> 98

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<210> 148

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22

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23

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18

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21

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<210> 366

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<400> 376 22  
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<210> 377  
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<400> 377 24  
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<210> 378  
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<210> 379  
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<400> 379 24  
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<210> 380  
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<400> 380

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23

<210> 381

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24

<210> 382

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24

<210> 383

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19

<210> 384

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22

<210> 385

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<400> 385  
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24

<210> 386  
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oligonucleotide

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22

<210> 387  
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oligonucleotide

<400> 387  
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22

<210> 388  
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oligonucleotide

<400> 388  
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23

<210> 389  
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<p>&lt;210&gt; 391          &lt;211&gt; 20          &lt;212&gt; DNA          &lt;213&gt; Artificial Sequence</p>	
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<p>&lt;210&gt; 392          &lt;211&gt; 26          &lt;212&gt; DNA          &lt;213&gt; Artificial Sequence</p>	
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<p>&lt;210&gt; 393          &lt;211&gt; 23          &lt;212&gt; DNA          &lt;213&gt; Artificial Sequence</p>	
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oligonucleotide

<400> 394  
cccgatgcga cccagttta

19

<210> 395  
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<220>  
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oligonucleotide

<400> 395  
tggaggggtt tgatgccata

20

<210> 396  
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oligonucleotide

<400> 396  
gatggatgcc cttcgaatac aga

23

<210> 397  
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oligonucleotide

<400> 397  
ttcccattta gtttgtcaat aatc

24

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